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SUPPLEMENT TO THE LEGAL AND REGULATORY ASSESSMENTS FOR THE KYRGYZ REPUBLIC AND THE REPUBLIC OF TAJIKISTAN:

THE NECESSITY OF A REGIONAL APPROACH

**USAID's Regional Energy Markets Assistance
Program (REMAP) for Central Asia**

Implemented by:

The United States Energy Association

May 7, 2007

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Implemented by the United States Energy Association

Cooperative Agreement 176-A-00-06-00005

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This report is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the United States Energy Association and do not necessarily reflect the views of USAID or the United States Government.

I. INTRODUCTION

This Report is a Supplement to the Legal and Regulatory Assessments conducted by Pierce Atwood, under contract with USEA, pursuant to support from USAID. The purpose of this Supplement is to focus on the regional legal and regulatory framework issues that must be considered as efforts move forward to create a regional electricity market in Central Asia. This Supplement and the accompanying Assessments are part of Component Three of the Regional Energy Markets Assistance Program (“REMAP”) to assist in the development of an electricity market in the Central Asian Republics (“CAR”).

This Supplement offers an analysis as to regional actions that are valuable in moving the regional market development initiatives ahead. National efforts must be made in concert with regional activities in order to avoid the development of national systems that are not harmonized and that suffer from unintended barriers to regional trade.

This Supplement is the result of extensive research; meetings in Bishkek, the Kyrgyz Republic and Dushanbe, the Republic of Tajikistan with local stakeholders and REMAP experts; and participation in the REMAP Regional Electricity Market Development Workshop conducted in February 2007 in Almaty, Kazakhstan, with stakeholder participants from the Kyrgyz Republic, the Republic of Kazakhstan, the Republic of Tajikistan, and Uzbekistan. It is also born of our experience working with other regional market initiatives in other parts of the world.

The starting point for any discussion of regional market development is to clarify the common goal of all market participants. This Supplement is based on the understanding that the goal of this regional market is trade among all five Central Asian countries, and peripheral trading with Pakistan, Afghanistan and other neighboring countries. Notwithstanding this understanding, due to funding and political contingencies, the REMAP project thus far has focused primarily on the Republic of Kazakhstan, the Kyrgyz Republic and the Republic of Tajikistan. The Supplement however contemplates the need for an inclusive approach across all Central Asian Republics for regional trade to flourish. The purpose of this Supplement is not to delve into the legal and regulatory frameworks of the Central Asian countries, but instead to address the basic principles behind regional market development and considerations specific to the Central Asian context.

It is the basic premise of this Supplement that a regional legal and regulatory framework approach is essential to support regional market development. National action, in isolation of a regional framework, is likely to have a flawed and haphazard result. This Supplement provides case study examples of other regional approaches, including regional market development efforts in South East Europe. There, national reforms were circumscribed and defined by regionally driven guidelines, standards, advisory and interpretive notes and in some cases, rules, with regional institution building as a cornerstone of regional market development. While experiences in other regions should not be transferred wholesale to the Central Asian region due to its own distinct issues, experiences elsewhere offer important lessons.

Unique legal and regulatory conditions, resource considerations, and political and infrastructure realities require an approach distinctly tailored to Central Asia. At the same time, lessons learned from other regional efforts should guide the development of a regional approach in Central Asia.

This Supplement is divided into the following parts:

1. Introduction
2. Executive Summary
3. Background
4. Concluding Recommendations

Attached as Appendices are:

1. Documents relating to the South East Europe regional efforts
2. Documents relating to the Central American regional efforts
3. Documents relating to the Mekong regional efforts
4. Documents relating to the South African Power Pool efforts
5. Documents relating to the West African Power Pool efforts

II. EXECUTIVE SUMMARY

The energy sectors of the Central Asia Republics are at highly different stages of development, with Kazakhstan significantly more developed toward electricity market trade than the other countries in the region. The Kyrgyz Republic is making some important moves in the right direction, but is being stalled by political instability. Tajikistan is in the process of making reforms but lacks a clear legal and regulatory structure to facilitate trade. (See our Legal Assessments to which this Supplement is attached for further information.) Uzbekistan and Turkmenistan have thus far stayed largely out of the regional electricity market initiatives, though the participation of each is essential for a real regional market to develop. Uzbekistan houses the United Dispatch Centre, a quasi independent entity that provides dispatch authority, mainly limited to controlling the operation of a 500 KV transmission loop, coordinating cross border power flows and regulating frequency and load reliability within Central Asia; thus it has a particularly vital role.

The temptation of course is to rely on the greater developed market structure in Kazakhstan to lead and design the direction of the regional market. But while the experience of Kazakhstan must assist the overall process of creating a regional market, the importance of buy-in and active participatory input from all included republics cannot be underestimated. This is particularly true given the politics of the region. Though a discussion of the political instability in the region and indeed the relationship between the countries of Central Asia is beyond the scope of this Supplement, it is important to emphasize that real tensions continue to exist.

Each Republic in Central Asia is striving to assert its own national footprint; regional activity thus must be taken with care, with clear respect for each nation's sovereignty.

Regional market development approaches vary around the world, but all have one approach in common: to identify one or more region-wide framework that goes hand in hand with changes on the national front. In the South East Europe region, a multi-institutional, legally binding approach guides the regional development process. National reforms exist in parallel, but they are increasingly directed regionally. In the four other areas of the world with regional market systems in development, at least one or more regional agreements and institutional structures underpins efforts, though the stages are less advanced and less centralized than in South East Europe.

One of the lessons learned here is that a vital step in the creation of any regional electricity market is an agreement that sets forth key principles to which the countries commit. Organizations that intend to work together require a common understanding, including a set of guiding principles; this is all the more true when collaborative efforts involve countries: national sovereignty and laws must be respected and assessed when any regional initiative is contemplated. Based on the experience in other parts of the world, and bolstered by the conditions in Central Asia and the challenges faced by its energy sectors, this Supplement recognizes that a regional agreement and non-binding institutional framework must be developed as part of the early-stage process toward a regionalizing of electricity market trade in Central Asia. Optimally, these early agreements will evolve into stronger and stronger commitments over time, and perhaps, in the long-term, they will develop into binding commitments toward regional trade, monitored by one or more regional institution. It is reasonable to expect that this may take a significant amount of time given the political climate in Central Asia.

REMAP has both an important catalytic and substantive role in developing the foundation for such agreements. Its early activities have been designed to build awareness and consensus among the counterparts of the need for, and provisions of, commonly adopted principles and agreements supportive of regional electricity trade. In parallel to the efforts, we think it vital that USAID and other donors galvanize the political support necessary to set a regional framework by commencing discussions of this framework with senior political leaders and the donor community. This Supplement seeks to provide the background information necessary to assess the various steps required for a successful electricity market to develop. It assesses other regional electricity market efforts around the world to draw lessons as to how efforts in Central Asia may best move forward. It concludes with general recommendations regarding how to frame the first stages of a regional electricity market, in concert with the REMAP program.

The threshold for regional electricity market development is to establish basic principles toward which the Central Asian Republics are committed. While this can be done in part by parallel programs on the national level that emphasize a core set of factors, given the breadth of various assistance programs and the uncertainty inherent in national legislative and political processes, a nationally driven approach by itself will fall short of achieving the regional objectives required for a successful regional market to develop.

Going forward, we recommend an effort to assist the development of a common set of principles agreed upon by the Central Asia countries. This agreement would serve as an umbrella commitment to regional electricity market development. As part of this process it is essential that regional institutions of some form support the development and implementation of such principles. Thus, a sub-component of any effort toward a common set of principles must necessarily include attention to the creation and governance of regional institutions.

III. BACKGROUND

REMAP's overall goals are set forth in our Legal Assessments for the Kyrgyz Republic and the Republic of Tajikistan and thus are not repeated here. We emphasize only, for the purpose of this regional analysis, that REMAP is designed with the intent not simply to improve the electricity sector of each country of Central Asia¹ but to assist the development of a Central Asia-wide regional electricity market (the latter being the first of three key components of REMAP). Thus while REMAP can address its third component, the strengthening of the legal and regulatory frameworks in the Republic of Tajikistan and the Kyrgyz Republic, to complement its overall goal, it must assess how this national work can drive forward regional goals and vice versa. It is our premise that, while the national work can focus on aspects required to make a regional market work, without a corresponding regional framework (even in the most infant of forms), it will be difficult to move as a *region overall* in a streamlined manner toward market development.

To make this point, we review here the other regional energy market processes across the world. In order to present a consolidated and reasonably concise review, we present this background not in detail, but rather to examine the general strategies applied. We begin with South East Europe because this is the most developed regional effort from a multi-actor perspective.

¹ In fact, REMAP's national mandates emphasize national assistance to the legal and regulatory frameworks of the Republic of Tajikistan and the Kyrgyz Republic, and have far less involvement in the national frameworks of the other Central Asian countries, with no presence in Uzbekistan and very limited activity in Turkmenistan.

South East Europe

The South East Europe (“SEE”) regional market process has many dimensions, with inclusion of operator, regulators, ministries and other governmental officials – with separate and joint groups for each category of stakeholder. In this sense, and also in the sense of broad based support for the regional market initiatives, it is the most advanced regional platform in the world – though it is not without its disappointments and challenges.

The current regional electricity market framework in SEE is known as the *Energy Community*, formally created by the Treaty establishing the Energy Community, which went into effect on July 1, 2006. The signatories are the European Community on one side, and nine states in SEE on the other; these are Albania, Bosnia and Herzegovina, Croatia, Macedonia, Bulgaria, Romania, Serbia, Montenegro and UNMIK/Kosovo (all non-EU member states at the point of signature, two – Bulgaria and Romania – are now part of the EU). Other countries are also involved in the Energy Community process in a different status, as discussed below. More indirectly, however, the Energy Community was born of a long series of regional initiatives, with increasing regional targets, responsibilities and ultimately, requirements developed over time. To understand the current status, it is necessary to look back at least seven years.

The underpinnings of the regional market development initiatives began around 2000, but the first regional group formation to support the process occurred in 2002 through what is known as the Athens Forum. The European Commission spearheaded the creation of this Forum, with active support from other donor agencies, including USAID, the World Bank and EBRD. Several EU countries were leaders in promoting the process, most notably Greece, which committed to running the Forum itself, with leadership at high government level.

Most of the non-EU nations in the SEE region and Greece signed the Athens Memorandum of Understanding of 2002 (“2002 MOU”), which was a non-binding agreement to take several steps towards the creation of such a regional market and its eventual integration into the EU’s internal energy market.² The signatory nations noted that they recognized the need to create a regional trade in energy to both satisfy SEE’s demand for energy and enhance investment in the region. Specifically, under the 2002 MOU, the signatory nations pledged to “devote their best endeavors” to create the following institutions that would operate their respective (national) segments of a regional electricity market:

- A **State Energy Authority**, placed within a government ministry, with the primary purpose of ensuring the secure provision of energy at competitive prices;
- An **Electricity Regulatory Authority**, completely independent of the interests of the electric power industry, that would be responsible for monitoring the electricity market;

² The 2002 MOU was signed by Albania, Bosnia and Herzegovina, Bulgaria, Croatia Greece, Macedonia, Romania, Turkey and Yugoslavia, as well as the United Nations Interim Mission in Kosovo (“UNMIK”). The European Commission also signed the 2002 MOU as a sponsor, and Austria, Hungary, Italy, Moldova and Slovenia signed as “observers.”

- **Transmission System Operators**, to manage the flow of energy across the nation's electrical system and ensure the reliability of that system; and
- **Distribution System Operators**, to maintain the distribution system, ensure its ability to meet demand and, if necessary, expand it.

The signatory nations also agreed to “endeavor” to take several steps to promote regional trade, including: (1) the development of action plans to carry out tariff reforms and identify infrastructure needs; (2) the implementation of cross-border trade tariffs and congestion management systems; (3) the adoption of an authorization procedure for the construction of new generation capacity; (4) the implementation of grid codes that share common elements across the region; and (5) the adoption of the EU's guidelines for cross-border trade and transmission.

To perform much of the work involved in creating a regional market, the signatory nations created a Ministerial Council, made up of the Energy Ministers of each nation. This Council would make strategic decisions concerning the regional market, advise the Athens Forum (which continued to meet throughout the process of creating the Energy Community), and, if necessary, formally endorse the Forum's conclusions. A Permanent High Level Group (PHLG) was also created and given the mission of supporting the Ministerial Council and ensuring that its decisions were carried out. Although the 2002 MOU stressed that it was not legally binding on the signatory nations, it called on the PHLG to assess the voluntary commitments contained within the 2002 MOU, for the purpose of proposing a legally binding document. The point here is that while the 2002 MOU focused on national action, early on it was recognized that such national mandates could not be achieved without a regional framework to support it.

It is important to recognize what this means in terms of stakeholder participation. The Ministerial Council was a formal group of Ministers who could act with authority granted at the highest levels. They were expected to meet only occasionally, and only for the most important policy matters. The PHLG was to be its support and research group, mostly made up of lower-level government officials who reported to their Ministries and could meet more often to get the work done. In concert with the establishment of these two key regional bodies made up of government officials from all the participating nations, the regulators were also called upon by the European Commission to create a regional group. They did this through an existing organization called the Council of European Energy Regulators (“CEER”), which was itself a voluntary group made up of regulators from the European Union Member States. CEER created a subgroup within its organization in order to support the SEE regional electricity market process. This subgroup included CEER members and representatives of all South East European regulatory authorities (and the Ministries where regulatory authorities did not yet exist). Led by EU members Greece and Italy, this group, called the CEER Working Group for South East Europe Energy Regulation (“CEER WG SEEER”) met to discuss regulatory issues that arose as the regional energy market developed. As part of its work, the CEER WG SEEER put forth, through a collaborative internal process, important position papers on issues such as market design, standards of minimum regulatory competencies, inter-state compensation mechanisms for the trade of electricity, and the like. Around the same time, the European Commission also asked the system operators to organize a group. In parallel with steps taken by the regulators, the organization of EU Transmission System Operators (“TSOs”) ETSO, formed a subgroup called SETSO that extended beyond the EU Member borders into non-EU Member States in SEE. Just

as the regulators designed papers through a collaborative process, SETSO did the same, including important TSO benchmarking reports, minimum standards for TSOs, and input into market design and compensation mechanisms.

Another essential element of the process was the simultaneous institutionalization of a donors group, which supported measures to move forward the regional market, including national and regional components of assistance. These various groups then all came together through the Athens Forum, which has met at least twice a year since 2002.

In December of 2003, after several benchmarking studies to determine the progress made by the signatory nations in carrying out the commitments listed in the 2002 MOU, most of these nations, along with some new partners,³ entered the Athens Memorandum of Understanding of 2003 (“2003 MOU”). Like the 2002 MOU, the 2003 MOU was not binding but the signatory nations clearly indicated their desire to replace it with a legally binding agreement as soon as possible. The 2003 MOU went further than the 2002 MOU and asked the signatory countries to adopt by June of 2004 a regional energy strategy identifying the principles which would govern the anticipated regional market and to set a timetable for its implementation. In particular, these countries were also expected to adopt the rules relating to the market structure, network access and the operation of electric power systems contained in the European Union’s Directive 2003/54/EC. These rules required member countries to designate a TSO to manage flows on the system, ensure the system’s ability to meet the demand placed on it, and ensure that there was no discrimination among system users. The 2003 MOU provided that these TSOs were to be legally separated from the rest of their associated undertakings and be managed separately; it also incorporated requirements of Directive 2003/54/EC to appoint a regulatory authority which would ensure effective competition, proper functioning of the market, and independence of all interests in the electric industry.

In December of 2004, the Ministerial Council approved the Tirana Declaration, under which the signatory countries to the MOUs would create a South East European Regulatory Board for Electricity and Gas (“Board”). The Board was to facilitate coordination and consultation between the regulatory authorities of each of the signatory countries, as well as to supervise the integration of regulation throughout the region. The Board would also monitor the region’s energy supply and draw up guidelines on market design, licensing procedures and other market authorizations. Membership of the Board was to consist of the heads of the regulatory authorities that each state had designated in response to the 2003 MOU. The Tirana declaration set a clear target: it stated that it would go into force one month after its adoption by the Ministerial Council.

Flowing from the Tirana Declaration, in which formal steps were taken to further institutionalize the regional process, negotiations began for the development and signing of a region-wide Treaty. We note that around this time too, the emphasis shifted from electricity to

³ Memorandum of Understanding of the Regional Energy Market in South East Europe and its Integration into the European Community Internal Energy Market, 2003 (“2003 MOU”). The 2003 MOU was signed by Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Serbia and Montenegro, Macedonia, Romania, Turkey, UNMIK, and the European Community. Austria, Italy and Greece signed as “political participants to the process.”

energy (including gas), though electricity would continue to be the primary emphasis up until the present day, when gas is starting to take center stage.

In 2005, most of the nations which had entered into the 2003 MOU signed the Treaty Establishing the Energy Community (“Treaty”), which was a legally binding document creating a regional energy market in SEE. Unlike the earlier MOUs, the Treaty requires, rather than simply requests, the signatory nations to take action aimed at creating this market, including the adoption of the EU standards for market rules, environmental protection and renewable energy. Specifically, the Treaty binds the signatory countries to adhere to the EU Electricity and Gas Directives and to Regulation 1228, as amended, by July 2007, with exceptions for timing of market opening; and to the EU Directives on assessing the environmental impact of public and private projects, among other requirements.⁴ The Treaty is forward thinking: it provides that the energy *acquis* to which these states are bound through the Treaty may be expanded with the passage of new legislation; bans the use of customs duties and quantitative restrictions on the import and export of energy between Energy Community members; and allows the institutions of the Energy Community to take measures to ensure that each signatory nation’s market is compatible with the regional market.

Importantly, the Treaty, contemplates the inclusion of states beyond the signatories: (1) Observers (who can attend but have no right to present unless explicitly called upon); and (2) Participants (who may contribute to the process but do not have voting rights on the institutions of the Treaty, which are discussed below).

To ensure that its requirements are met, the Treaty incorporates the Ministerial Council, and authorizes it to both create general policies for the Energy Community and take legally binding measures to enforce those policies. The Treaty also incorporates the PHLG, which is to continue to support the Council, take any actions mandated by the Council, and respond to requests by international donor agencies. In addition to these two existing bodies, the Treaty created a Regulatory Board to advise the Council and the PHLG on the details of statutes and regulations and to issue recommendations on certain cross-border disputes. This Board’s membership is made up of signatory countries, with the European Commission acting as its Vice President, but also, importantly, includes Participants in its three working groups (gas, electricity and customer protection). Moreover, the Treaty provides that the Board may not only issue advice, but indeed may resolve disputes between countries and issue binding decisions on matters of regional importance – as long as so empowered by the Ministerial Council. At the end of 2006, this regional board, now called the Energy Community Regulatory Board (“ECRB”), met for the first time. In its infancy, the ECRB is empowered only to take advisory positions on matters – though it is anticipated that the powers will increase commensurate with its capacity.

We note here that the process has not been easy and without dissent. Significantly, Turkey decided not to sign the Treaty, though it remains an Observer to the process. Moreover,

⁴ The Treaty also provides that by 2011 each nation must implement the EU Directive on reducing the sulphur content in certain liquid fuels, and by 2017 they must implement the Directive on the emission of pollutants by large combustion plants. The Treaty also states that within one year after it comes into force, each signatory nation must provide the European Commission with a plan to implement the Directives concerning the promotion of electricity generated from renewable sources and the use of biofuels or other renewable fuels for transport.

many goals have taken far longer to reach than anticipated. A standard market design has been, for instance, in the works for years but has not yet been achieved, and only in the last few months has an agreement on an inter-compensation mechanism for the region and the EU been reached, after many years of struggle. The market framework is in place, but the market itself is only budding. Despite this, overall, the progress is remarkable.

The South East Europe regional market process has several defining characteristics:

- ❖ *At an early stage, the goal was twofold: to agree on minimum national requirements and to support these through the creation of regional organizations with representatives from each country that would be part of the regional market.*
- ❖ *The goal was realized first through voluntary agreements and voluntary organizations, themselves formed after significant negotiation and meeting at a political and technical level.*
- ❖ *Voluntary agreements were gradually expanded to include increasingly reform minded provisions directed at regional trade.*
- ❖ *Neighboring countries were included with differing roles in order to promote as much buy-in and as seamless a market structure as possible. Multiple actors within the energy sectors of each state were included: governments, operator and regulators.*
- ❖ *South East Europe has the benefit of strong leadership from the EU and collaborative commitment from donors.*
- ❖ *The countries of South East Europe had a distinct incentive to follow the EU: the hope of EU membership. Moreover, regional rules already established by the EU were used as a basis for the regional initiatives. This is one of the only regions in the world where a ready-made body of regional rules already existed that could be used as a template for regional market reform in a neighboring area.*

Central America

The concept of a regional electricity market has been in development in Central America since 1995, when the Presidents of the Central American Nations of Belize, Costa Rica, El Salvador, Honduras, Nicaragua and Panama agreed to begin the process of integrating their transmission systems and electricity markets to take advantage of some of these nations' surplus generation. By doing this, these countries also hoped to lower the cost of generation through economies of scale, and to reorganize the electricity sector by diversifying ownership and introducing private investment. In 1996, these six nations signed the Central American Electricity Market Framework Treaty ("1996 Treaty"), which envisioned the construction of a 1,100 mile regional transmission system, the Sistema de Interconexion Electrica de los Paises America Central ("SIEPAC"), that would make this integration possible, as well as to connect the region with Mexico. By 1999, the 1996 Treaty had been ratified by all six nations.

In 2001, these Central American countries signed the Plan Puebla-Panama, an agreement which specifies that the first phase of this integration will be the construction of the SIEPAC system, followed by the creation of a regional wholesale electricity market, the Mercado Electrico Regional (“MER”). Recognizing the need for an independent and regional company to oversee the completion of the SIEPAC system, the participating nations created Empresa Propietaria de la Red (“EPR”) to fulfill the role. In June of 2006, work began on a portion of the line that will connect Guatemala and Mexico and in September of 2006 construction began on the portion of the system located in Panama.

In addition to SIEPAC, the 1996 Treaty also called for the creation of two regional entities that would oversee the operation of the regional market: (1) the Electric Interconnection Commission (“CRIE”), the regional regulatory authority; and (2) the Regional Operator (“EOR”), which is responsible for managing the technical operation and commercial aspects of the market under the rules developed by CRIE. Created in 2001, both entities were given the authority to participate in judicial proceedings and perform such acts, contracts and operations as necessary in order to carry out their mandates. CRIE and EOR have hired staff, set up permanent headquarters, and are beginning to build the regulatory framework for the SIEPAC system. They will first issue a set of temporary regulations for interconnections using existing power lines, to be followed by more permanent regulations which will be put in place after the regional market has been in operation for a while.

The SIEPAC project has not been without controversy. For example, questions still remain concerning whether the El Salvadoran legislature violated that nation’s constitution when ratifying a loan from the Inter American Development Bank intended to finance much of the construction of the SIEPAC system. There are also concerns about the environmental impact of SIEPAC, including its possible effects on some of Costa Rica’s national parks. The project is moving forward, however, and EPR estimates that SIEPAC will be operational by late 2008.

The SIEPAC project is clearly focused on constructing infrastructure, though a regional regulator and a regional operator are conceived to support the infrastructure development. Both regional institutions, however, are embryonic and unlikely to be fully developed until after the regional market has begun to function. The current controversy over the environmental impact of the project shows the need to consider this issue in the planning process.

Mekong

A third case study we present here is that of the Greater Mekong Subregion (“GMS”). A regional market for the Mekong River area is envisioned through the interconnection of the electricity systems of Cambodia, China, Myanmar, Thailand, and Vietnam. In 2002, these five countries signed an Intergovernmental Agreement on Power Interconnections and Trade, with the goal of forming a regional power market. One of the Agreement’s “Flagship” programs is the creation of “Regional Power Interconnection and Trading Arrangements.” These arrangements focus on the construction of transmission lines and other infrastructure necessary for unification of the countries’ electricity markets. This area has a very uneven distribution of power, and the hope is that a regional approach will lead to more efficient use of its resources. The Asian Development Bank (“ADB”), which supports the process, assisted in the development of a two-part approach to create this regional power system. The first step is to develop “policies and institutions for cross-border power dispatch and trade,” and the second is “to install grid interconnection infrastructure using a building-block approach.”

To develop the policies for a regional system, the GMS member nations have already created a Regional Power Trade Coordination Committee (“RPTCC”), which will coordinate the implementation of a regional power trade. A Planning Working Group (“PWG”) has also been established to develop alternative plans and recommendations for the development of the regional transmission grid and assist the RPTCC with technical studies.

In the future, the GMS nations intend to form a Regional Regulatory Board to provide oversight over the regional system, with the goals of eliminating restrictive regulations and recommending changes that will ensure symmetry in national regulations. This will be accompanied by a Regional Transaction Coordinator, which will operate the regional system and determine the daily availability of cross-border transmission capacity, receive offers and bids for the selling and buying of energy, and coordinate the activities of the national TSOs.

The RPTCC held its first meeting in Guilin, China, in July of 2004. One of the RPTCC’s most important tasks will be to oversee the creation and adoption of a Regional Power Trade Operating Agreement (“RPTOA”), which will contain guidelines for technical coordination, cross-border trading and an institutional framework for the trade of electricity within the GMS. The RPTCC produced a draft Memorandum of Understanding on implementing the RPTOA in April of 2005. The RPTCC has also formed a Focal Group (“FG”) which is meant to promote power trade agreements and work to harmonize the GMS member nations’ generation and transmission plans. This group first met in January of 2006, in Hanoi, Vietnam.

The PWG first convened in June of 2006, in Siem Reap, Cambodia. At its second meeting, in Lijiang, China, in November of 2006, the PWG together with the FG agreed on a timeline for studies concerning performance standards and transmission regulations. A roadmap for the evolution of the electricity trade in the region was also presented at this meeting, but this does not appear to be a binding document. The PWG and FG have, however, agreed to prepare an initial document concerning the RPTOA which may be signed at the upcoming GMS Summit in 2008. There are disagreements among some of the GMS member nations concerning financial issues of the planned regional market, as well as the need for additional technical studies. The

GMS members, however, are optimistic that they can resolve these differences and achieve the goal of creating an interconnected electricity system.

The establishment of a Coordination Committee and a Planning Working Group, resulting in a timeline and roadmap for electricity market development, characterize the beginning steps in the Mekong Process. These regional institutions aim toward an agreement signed by the Greater Mekong Subregion countries in a stakeholder driven and inclusive Summit that will take place in 2008.

South African Power Pool

The southern African region has a long history of cross-border power projects, beginning with a power line linking the Democratic Republic of Congo to a copper mine in Zambia in 1958. This was followed in the 1960's by the interconnection of the power systems in Zambia and Zimbabwe after the construction of the Kariba dam. In 1975, South Africa was connected to Mozambique through a high voltage transmission line.

In 1992, after decades of negotiations and working through loose alliances, fifteen of the region's nations signed a formal treaty establishing the Southern African Development Community ("SADC") to better coordinate development projects. Subsequently, in 1995, twelve of the SADC's members signed an Inter-Governmental Agreement creating the South African Power Pool ("SAPP") in order to expand the region's trade in electricity, reduce energy costs and provide greater stability of supply for the member nations' national utilities. To accomplish this, the SAPP has been tasked with managing an interconnection among the national utilities of all twelve member nations.

The SAPP's governance is based on four main agreements among the member nations: (1) the Agreement that led to the creation of the pool; (2) a Memorandum of Understanding that established the pool's basic management and operating principles; (3) an Agreement Between Operating Members that laid out specific operating and pricing rules; and (4) the Operating Guidelines, which set standards and guidelines for pool operations. The Agreement that created the SAPP also states that pool agreements must be interpreted in a way that is consistent with the treaty that founded the SADC.

The SAPP has an extensive system of committees that oversee and manage the pool system. Overall leadership comes from the Executive Committee, which acts as a board of directors for the pool. The Management Committee, which administers the pool, is further broken down into three sub-committees: the Operating Sub-Committee ("OSC"), the Planning Sub-Committee ("PSC"), and the Environmental Sub-Committee. The OSC prepared the SAPP Operating Guidelines, which have been accepted by the Management Committee. The OSC has some oversight as to generation and trading, but the scope of its regulatory power is not clear. The OSC also oversees the Coordination Center, which is "responsible for the coordination of the SAPP Power Market Project, SAPP membership and competitive electricity market development."

Recently, in September 2005, the SAPP held a Regional Electricity Investment conference in Namibia to facilitate the financing of transmission and generation projects in the SADC region. Later that year, the Executive Committee approved a proposal to develop a competitive electricity market, which will be supported by a project funded by the Norwegian Government. In February of 2006, the SADC Council of Ministers signed a Revised SAPP Inter-Governmental Memorandum of Understanding, which contains changes in the reporting structure of SAPP and acknowledges the creation of regulatory authorities in many of the SADC nations. The Revised Memorandum also recognizes a need to involve in the SAPP participants other than just national power utilities.

The SAPP itself has no clearly defined regulatory powers, which creates an uncertainty over the regulation of the pool's interconnected system. The Regional Electricity Regulators Association of South Africa ("RERA") may play a role in regulating the system, but its influence has been limited thus far, and its regulatory power is also uncertain. Complicating matters further, in 1996, the SADC member nations adopted an Energy Protocol, which calls for the creation of an Energy Commission, to be comprised of a Committee of Ministers, a Committee of Senior Officials, and a Technical Unit. The Commission was expected to design a coordinated approach to regional policies and work with national, regional and international organizations. As with the groups listed above, however, the Commission was given no specific regulatory enforcement powers, and its current status is uncertain. In addition, the SAPP faces many difficulties in constructing, operating and maintaining necessary infrastructure.

A major problem in constructing the regional grid has been the national governments' lack of spending on system maintenance. They are often forced to spend their scant resources on other infrastructure development or social programs, such as poverty reduction, but this scarcity of funding has kept many major transmission projects from going forward. Additionally, a general lack of skills in the region, corruption, language barriers and administrative delays have all prevented the SAPP from making much headway in constructing and operating a regional transmission system.

Although many pieces of the regional market are in place, the absence of clear regulatory authority and a lack of funding for infrastructure construction and maintenance appear to be hampering the operation of the SAPP, though significant strides have been made. The heavy regional institutional framework may need to be streamlined, with corresponding concentration of authorities. It is widely acknowledged that Member governments need to invest more in their transmission systems for the SAPP to be able to develop a functioning regional market.

West African Power Pool

In 1975, fifteen western African nations formed the Economic Community of West African States ("ECOWAS") in order to promote regional integration and economic growth. The region has had extensive experience with regional power interconnection, with Ghana's Volta River Authority supplying electricity to Togo and Benin since 1972 and to Cote d'Ivoire

since 1984. Fourteen of ECOWAS's member nations decided to increase this cross-border trade in 2000 by signing an agreement to form the West African Power Pool ("WAPP"), which would interconnect their transmission grids. A Steering Committee, made up of the Energy Ministers of member nations, provided oversight, coordination and an administrative support for the project. The interconnection of the WAPP members' grids will take place in four phases. The first phase, which was scheduled to be finished by the end of 2006, would establish ground rules for how the WAPP should function, and major portions of the WAPP would be linked together via construction of interconnection lines. A great deal of regulatory work has already taken place during this phase: ECOWAS's governing body has called for the establishment of a Regional Regulatory Body and adopted a set of "Articles of Agreement Relating to the Establishment and Functioning of the West African Power Pool," which formalized the management structure of the WAPP.

The second phase, expected to last from 2007-2010, will include the construction of more interconnection lines, and the creation of new institutional entities. Phases three and four, which will not be completed until 2023, consist of making the WAPP system fully operational.

The WAPP is clearly a long-term project just getting underway. Although WAPP has begun functioning as an independent body, it is too early to tell how successful it will be in developing and regulating a regional market. The institutional framework appears to be struggling and more international assistance is needed to direct the process, but the regional framework is clearly moving regional market goals forward..

IV. CONCLUDING RECOMMENDATIONS

Importantly, each regional market effort is matched by a regionally identified goal – set forth in a Treaty or Agreement signed by governments – and by the establishment of regional institutions. While a Treaty or Agreement is of course not the first step in a regional market development process, it is the foundation upon which the institutions that support the regional electricity market grow. Thus, any effort to create a regional electricity market in Central Asia must explore how best to reduce these goals to one or a series of regional agreements that set out, at minimum, common principles that will be applied.

International experience shows that regional electricity and energy markets are founded on a multi-lateral not a bilateral basis. Common understandings between all nations involved provide the platform for trade; bilateral agreements are insufficient to promote regional markets. To protect fair, non-discriminatory and transparent trading practices, security of supply and the technical integrity of an integrated system (and indeed to achieve such integration), a regional agreement, such as a Treaty or a Memorandum of Understanding, is essential.

Not surprisingly, the experiences from the examples of regional energy market initiatives around the world demonstrate that the clearer the set of responsibilities attributed to each regional institution vis a vis the national institutions, the easier the course of development – though it must be recognized that regional market development is always a stop and start process, with successes and setbacks, requiring a long-term commitment. In South Africa, an excess of institutions and agreements has created some confusion and an uncomfortable absence of accountability. In West Africa, the lack of regional institutions has resulted in a somewhat haphazard approach, though it must be emphasized that the effort is relatively new and must have time to find its way. The South East Europe process demonstrates how regional institutions can evolve even as they assist the leadership of the regional energy market. For instance, the Ministerial Council and the PHLG themselves changed in structure and authority with advancements in the market (with the Treaty came new mandates and a somewhat different membership); correspondingly, new regional institutions also metamorphosed from less well defined organizations (with the Treaty came the ECRB, which had its operational roots in the CEER WG SEEER).

Regional institutions, even in their most nascent form (such as regional groups of stakeholders with comparable roles) will go far to move forward national reforms. The role of these regional groups is to design and approve standards by which national reforms are set through a recognized public process. Over time, such groups may evolve. It is not necessary, and indeed may be counterproductive in light of the political changes inherent in regional electricity market development and in Central Asia overall, to design regional institutions at the outset that will be necessary to facilitate the regional market once it is fully or even partly functional. The point is to begin the regional cooperation through regional structures that are authorized at the highest levels of each participating country. REMAP-sponsored workshops, seminars, working groups and technical assistance programs are not enough by themselves and must be sanctioned through an inter-governmental mandate at the most senior level.

The process thus has many stages. Initially, workshops, conferences and meetings with and among stakeholders in the region will raise understanding. Concrete progress, however, requires that these meetings must be underwritten by support from governments in order to give the technical experts, the infrastructure developers, the lawyers and the mid-level government officials who will direct the work the mandate that they need. A multilateral agreement is needed; this may be no more than a common set of principles that becomes more binding over time, or it may start at a more advanced stage. Whichever path is chosen, stakeholders must be authorized to come together as institutions. In turn, the institutions formed contribute to filling in the details of the common principles set forth in the multilateral agreements; and again, in turn, these details may result in more binding agreements, such as treaties.

Several regional groups already exist. We review the most significant three:

- ❖ The **Eurasian Economic Community** (“EURASEC”) includes four Central Asian Republics (not Turkmenistan), the Russian Federation and Belarus. Its overall goal is economic integration, with an energy component. REMAP has established a cooperative relationship with EURASEC, which participated as an observer in the February 2006 Regional Electricity Market Development Workshop.
- ❖ The **Electric Energy Council of the CIS** is made up of all states in the CIS, and thus extends far beyond Central Asia. The Electric Energy Council is one group within the CIS, which includes a number of councils, each focusing on different key economic issues. The Council is working on establishing a common electric power trading space among CIS members. REMAP has initiated discussions with the council on the potential to establish on a cooperative basis a pilot project in Central Asia.
- ❖ The **Central Asian Regional Economic Cooperation** (“CAREC”) was founded in 1997 as a joint effort of the ADB, the European Bank for Reconstruction and Development, the IMB, the Islamic Development Bank, the United Nations Development Programme and the World Bank. The overall goal is to improve regional economic cooperation, with energy a sub-component rather than the central objective. While its membership includes Kazakhstan, the Kyrgyz Republic, Tajikistan and Uzbekistan (though not Turkmenistan), it also includes nations beyond Central Asia (Afghanistan, Mongolia and the People’s Republic of China). CAREC envisions a Members Energy Regulatory Forum which is in its infancy.

Separately, a series of agreements regarding the use of water resources goes directly to the heart of Central Asia’s electricity sector given the extent of hydropower reliance in the region. This is not examined in depth here, however, because the underlying issue is that not one of the existing regional agreements nor the regional organizations address the primary charge at issue, which is the development of a regional electricity market within the five Republics of Central Asia. However, each addresses issues relevant to regional electricity market development in Central Asia. The task then is to bring the resources together in order to contribute to the framework that will offer the platform for a regional electricity market.

It is worth noting that the regional institutions and agreements that underpin efforts in other parts of the world grew out of the ultimate objective for a regional energy market. The difficulties of institutional development, and in particular governance rules that protect transparent, non-discriminatory processes, accentuate the challenge of carving out new rules from an existing institution, with its own preexisting rules. On the other hand, working with existing institutions offers distinct advantages. The optimal approach for Central Asia may be to meld the two concepts: regional institutions can be born from existing institutions, while remaining separate and independent in their new form.

A step toward this effort is a stakeholder meeting in the form of a regional Forum or Summit. This meeting will include not only national stakeholders but existing regional organizations and donor organizations which are prepared to contribute to the overall electricity market development process. A goal of such a Summit should be to create a document that, at

minimum, agrees on a direction the participating countries will take toward a regional market. This Summit must result in a tangible agreement, so it therefore must include participants at the highest levels: government officials, regulators and operators. The effort must be not only attended by, but *lead* by, decision-makers from the participating countries and from among the donor agencies.

A common factor that binds the regional electricity market development in the Mekong and SEE regions in particular is the strong involvement of donor agencies. These agencies offer the promise of continuity and long-term financial support, as well as a certain neutrality within an otherwise partisan process.

In the economic climate of Central Asia, donors are essential to the process. The same is true of representatives from existing regional organizations that may ultimately play a key role in the development – or reconfiguration – of any electricity market regional institutions, such as a group of regulators and a group of operators. Fundamentally, leadership on the donor and high government level is essential – and much groundwork is required before a Forum/Summit to ensure their support.

Regional electricity markets are born not only from national interest in electricity trade, but from agreements between nations to trade pursuant to a common set of principles designed to foster trust, transparency and fairness. These agreements in turn must be supported by a series of mechanisms that ensure implementation on legal, technical and political levels. This means they must be accompanied not only by national reform consistent with the common principles, but also by regional institutions that protect the integrity of the process.

Once the regional institutions are formed, the contour of their operations and the details of the work must begin.

Governance challenges are great, making the needs for a streamlined framework essential. Short, medium and long-term goals must be established, with realistic goals that approach development in steps rather than in leaps, and with inclusive, stakeholder involvement at its core.

These groups must reach a voluntary agreement to assign to a regional organization the role of monitoring the implementation of these principles in order to see the process forward. This process alone requires leadership of multiple regional and donor stakeholders.

One of the most challenging questions concerns how to monitor and oversee the implementation of a regional market process. As the regional electricity initiative moves forward, a voluntary agreement to assign to one or more regional organizations the role of the monitoring and implementation of a commonly agreed upon set of principles is required. Such monitoring would have advisory and persuasive effect only in the first stages, for in later stages a binding authority should take hold.

Given the complex set of challenges to regional electricity market development anywhere, and indeed the additional complexities offered by the different stages of development of the electricity sectors in Central Asia combined with the political instability, it is advised that USAID focus efforts on setting the stage for a regional Summit. This Summit would include the national, regional and donor stakeholders involved in the sector, and the goal would be an agreement that underpins regional market development. It would need to be backed by one or more assessments that offer recommendations as to what such an agreement should look like in the initial period, a cost-benefit analysis and a political assessment – coupled by a series of meetings with local stakeholders to test out these assessments before any such Summit takes place. It is reasonable to conclude that this is a one to two year process, with a Summit to occur in 2009. The national legal and regulatory work and the regional workshop and other regional seminar and meeting initiatives that REMAP undertakes would serve a vital role in creating the groundwork necessary for the success of this type of regional Summit.

As any with process that involves multiple, self-interested actors, struggles over authority must be anticipated. Negotiation is a core of any regional electricity market initiative, with concessions made at each stage of development. As the groundwork is laid through REMAP activities, it is important that negotiations regarding the common principles by which the regional market will go forward are initiated and pursued with attention from donors and senior level officials in each participating country. The development of these approaches must be viewed as a continuum, requiring a long-term commitment from countries and donors alike.